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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,858	10/18/2001	Pronita Mehrotra	297/144/2	8294
25297	7590	05/03/2005	EXAMINER	
JENKINS, WILSON & TAYLOR, P. A.			JUNG, MIN	
3100 TOWER BLVD			ART UNIT	
SUITE 1400			PAPER NUMBER	
DURHAM, NC 27707			2663	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/981,858	MEHROTRA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Min Jung	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-20 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/01, 4/02, 6/03</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. This application is in condition for allowance except for the following formal matters: In claim 6, line 5, step (b) is referred, however, the description relates more to step (e). Clarification is required. In claim 15, a “,” should be inserted after the term “internal nodes” to clarify the meaning of the clause. In claim 19, line 2, “form” should be changed to ----from---- to reflect the correct spelling.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

### ***Allowable Subject Matter***

2. The following is a statement of reasons for the indication of allowable subject matter: All the claims are allowable over the prior art of record because prior art fail to teach or fairly suggest 1) a method for determining an output port corresponding to the next hop node by constructing a data structure based on a plurality of variable-length network address prefixes; traversing a data structure based on bits in an input address to determine a location in the data structure corresponding to the longest network address prefix that matches the input address; and determining, based on the location in the data structure, an offset in the second memory device for the output port identifier

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corresponding to the input address, 2) a method for determining an output port identifier corresponding to a network address of the next hop node by traversing a trie data structure based on bits in an input network address and determining a location in the data structure based on the bits in the input network address; maintaining a count of a number of bits having a first value before the location in the trie data structure; and determining, based on the number of bits having the first value, an offset for extracting an output port identifier from a memory device, and 3) a fast packet forwarding engine comprising a first memory storing a trie data structure corresponding to variable-length network address prefixes, the trie data structure including a plurality of leaf nodes at locations corresponding to variable-length network address prefixes; a second memory storing output port identifiers; and a processor for determining the location of a leaf node in the trie data structure based on bits in an input address, and for determining an offset for extracting an output port identifier from the second memory device based on the location.

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Waters et al. patent, the Carr patent, the Filippi et al. patent, the Wilkinson, III et al. patent, the Rekhter patent, the Rochberger patent, and the Hunter et al. patent are cited for further references.

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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Min Jung whose telephone number is 571-272-3127.

The examiner can normally be reached on Monday, Thursday, Friday 7:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ  
April 28, 2005

  
Min Jung  
Primary Examiner